



**STATE OF TENNESSEE
DEPARTMENT OF HEALTH
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL
Lab Services - Jackson Regional Lab
Jackson, TN 38301
731-426-0686

TDH: Lab Services KRL
Lab Services - Knoxville Regional Lab
Knoxville, TN 37920
865-549-5201

TDH: Lab Services NCL
Lab Services - Nashville Central Lab
Nashville, TN 37243
615-262-6300

Sent To: Steve Roberts
TDEC-DWS
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: N00003939
Nashville Central Laboratory

Sampling Agency: TDEC: Division of Water Supply

Billing Code: 327.39-12

This is to certify that the following results were determined using
good laboratory practices and in accordance with federal or state
approved methodologies.

Craig Edwards

Analytical Supervisor

Lab-Sample Number: N00003939001
Project Name:
Sample Description: KINGSTON WTP
Sampler Project Name: RAW
Project Site No.:
Station No.:
Date/Time Collected: 01/02/2009 09:35
Sampler's Name: GEOFF KLEIN
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date:
Date/Time Received: 01/02/2009 13:30
Received By: P D Wilson

Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	53	mg/L	3.8	10	M Chen	1/2/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	39	mg/L	0.7	1	M Chen	1/2/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: N00003939002
Project Name:
Sample Description: KINGSTON WTP
Sampler Project Name: FINISH
Project Site No.:
Station No.:
Date/Time Collected: 01/02/2009 10:00
Sampler's Name: GEOFF KLEIN
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
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Priority Date:
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Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	53	mg/L	3.8	10	M Chen	1/2/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	41	mg/L	0.7	1	M Chen	1/2/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: N00003939003
Project Name:
Sample Description: ROCKWOOD WTP
Sampler Project Name: RAW
Project Site No.:
Station No.:
Date/Time Collected: 01/02/2009 11:10
Sampler's Name: GEOFF KLEIN
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date:
Date/Time Received: 01/02/2009 13:30
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Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	74	mg/L	3.8	10	M Chen	1/2/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	54	mg/L	0.7	1	M Chen	1/2/2009

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected

Lab-Sample Number: N00003939004
Project Name:
Sample Description: ROCKWOOD WTP
Sampler Project Name: FINISHED
Project Site No.:
Station No.:
Date/Time Collected: 01/02/2009 11:30
Sampler's Name: GEOFF KLEIN
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date:
Date/Time Received: 01/02/2009 13:30
Received By: P D Wilson

Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	65	mg/L	3.8	10	M Chen	1/2/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	51	mg/L	0.7	1	M Chen	1/2/2009

J - Estimated value between MDL and MQL

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Analytical Supervisor

Lab-Sample Number: N00003939001
Project Name:
Sample Description: KINGSTON WTP
Sampler Project Name: RAW
Project Site No.:
Station No.:
Date/Time Collected: 01/02/2009 09:35
Sampler's Name: GEOFF KLEIN
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
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Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/03/2009				M Pattanayek	1/3/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	1/3/2009
Barium	20	µg/L	2.5	5	M Pattanayek	1/3/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	1/3/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/3/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	1/3/2009
Cobalt	0.11J	µg/L	0.04	1	M Pattanayek	1/3/2009
Lead	0.23J	µg/L	0.10	1	M Pattanayek	1/3/2009
Manganese	27	µg/L	0.42	1	M Pattanayek	1/3/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/3/2009
Strontium	61	µg/L	0.47	1	M Pattanayek	1/3/2009
Thallium	0.67J	µg/L	0.03	1	M Pattanayek	1/3/2009
Uranium	0.10J	µg/L	0.01	1	M Pattanayek	1/3/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	1/3/2009

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/3/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: N00003939002
Project Name:
Sample Description: KINGSTON WTP
Sampler Project Name: FINISH
Project Site No.:
Station No.:
Date/Time Collected: 01/02/2009 10:00
Sampler's Name: GEOFF KLEIN
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date:
Date/Time Received: 01/02/2009 13:30
Received By: P D Wilson

Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/03/2009				M Pattanayek	1/3/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	1/3/2009
Barium	18	µg/L	2.5	5	M Pattanayek	1/3/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	1/3/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/3/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	1/3/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	1/3/2009
Lead	U	µg/L	0.10	1	M Pattanayek	1/3/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	1/3/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/3/2009
Strontium	63	µg/L	0.47	1	M Pattanayek	1/3/2009
Thallium	0.16J	µg/L	0.03	1	M Pattanayek	1/3/2009
Uranium	U	µg/L	0.01	1	M Pattanayek	1/3/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	1/3/2009

TEST: Mercury			METHOD: EPA 245.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/3/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: N00003939003
Project Name:
Sample Description: ROCKWOOD WTP
Sampler Project Name: RAW
Project Site No.:
Station No.:
Date/Time Collected: 01/02/2009 11:10
Sampler's Name: GEOFF KLEIN
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date:
Date/Time Received: 01/02/2009 13:30
Received By: P D Wilson

Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/03/2009				M Pattanayek	1/3/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	1/3/2009
Barium	28	µg/L	2.5	5	M Pattanayek	1/3/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	1/3/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/3/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	1/3/2009
Cobalt	0.06J	µg/L	0.04	1	M Pattanayek	1/3/2009
Lead	0.15J	µg/L	0.10	1	M Pattanayek	1/3/2009
Manganese	13	µg/L	0.42	1	M Pattanayek	1/3/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/3/2009
Strontium	58	µg/L	0.47	1	M Pattanayek	1/3/2009
Thallium	0.07J	µg/L	0.03	1	M Pattanayek	1/3/2009
Uranium	0.13J	µg/L	0.01	1	M Pattanayek	1/3/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	1/3/2009

TEST: Mercury			METHOD: EPA 245.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/3/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: N00003939004
Project Name:
Sample Description: ROCKWOOD WTP
Sampler Project Name: FINISHED
Project Site No.:
Station No.:
Date/Time Collected: 01/02/2009 11:30
Sampler's Name: GEOFF KLEIN
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
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Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

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ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/03/2009				M Pattanayek	1/3/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	1/3/2009
Barium	27	µg/L	2.5	5	M Pattanayek	1/3/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	1/3/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	1/3/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	1/3/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	1/3/2009
Lead	U	µg/L	0.10	1	M Pattanayek	1/3/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	1/3/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	1/3/2009
Strontium	62	µg/L	0.47	1	M Pattanayek	1/3/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	1/3/2009
Uranium	U	µg/L	0.01	1	M Pattanayek	1/3/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	1/3/2009

TEST: Mercury			METHOD: EPA 245.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.13	0.2	A Wilson	1/3/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected